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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/712,474 | 11/14/2000 | Anil Raj Duggal | RD-28,259 | 9029 |
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| GENERAL ELECTRIC COMPANY | 1Y | EXAMINER | | |
| GLOBAL RESEARCH CENTER PATENT DOCKET RM. 4A59 | | | VU, JIMMY T | |
| PO BOX 8, BLDG. K-1 ROSS NISKAYUNA, NY 12309 | | • | ART UNIT | PAPER NUMBER |
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Please find below and/or attached an Office communication concerning this application or proceeding.

| A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION. Extensions of time may be available under the provision of 3 C/R 1.13(a). In one event, however, may a reply be smelly filed If the period for reply apposition above, he massimus of 3 C/R 1.13(a). In one event, however, may a reply be smelly filed If the period for reply apposition above, he massimus of 3 C/R 1.13(a). In one event, however, may a reply be smelly filed If the period for reply apposition of or reply reported to reply with the statutory minimum of thirty (30) days, will be considered timely. If the period for reply apposition of the reply will, by statute, cause the application, event if timely (30) days, will be considered timely. If the period for reply apposition of the reply will, by statute, cause the application, event if timely (80), any will be considered timely. If the period for reply application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213. Disposition of Claims 4) Claim(s) 1-29 and 46-51 is/are pending in the application. 4a) Of the above claim(s) is/are withdrawn from consideration. 5) Claim(s) 1-29 and 46-51 is/are rejected. 7) Claim(s) is/are objected to. 8) Claim(s) 1-3.29 and 46-51 is/are rejected. 7) Claim(s) is/are objected to. 8) Claim(s) 1-3.29 and 46-51 is/are rejected. 10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner. Application Papers 9) The specification is objected to by the Examiner. Application Papers 9) The proposed drawing correction filed on is/are: a) accepted or b) objected to by the Examiner. If approved, corrected drawings are required in reply to this Office action. 10) The order of celaration is objected to by the Examiner. Priority under 35 U.S.C. §§ 119 and 120 13) Acknowledgment is made of a claim for foreign pri | | | \sim \sim |
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| Examiner Jimmy T Vu 2821 | | Application No. | A. Lucant(s) |
| Jimmy T Vu | | 09/712,474 | DUGGAL ET AL. |
| - The MAILING DATE of this communication appears on the cover she 1 with the correspondence address - Period for Reply A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION. Extensions of time may be available under the provisions of 3 CFR 1.13(a). In or event, however, may a reply be timely filled after SX (8) MONTHS from the mailing date of the communication. The mailing date of the communication and the provision of the mailing date of this communication. It is not provided the provision of the provision of the communication of the provision of the mailing date of this communication. Fallow to reply within the set or extended period for reply will, by setalutor, cause the application to become ABANDONED (35 U.S.C. § 133). Along only provised by the Office there there therefore the history here will be considered they. Along they provised by the Office there there therefore after the hardward date of this communication. Provised the provision of the communication of the communication. Provision of the provision of t | Office Action Summary | Examiner | Art Unit |
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| THE MAILING DATE OF THIS COMMUNICATION. Extensions of mem py be wiseled under the provisions of 3 CFR 1.13(a). In no event, however, may a reply be timely filed after SX (6) MONTHS from the mailing date of this communication. If the proofs of mey systemic date is less then thing (30) days, a reply within the studency minimum of histy (30) days, and including the studency minimum of histy (30) days, and including the studency minimum of histy (30) days, and including the studency minimum of histy (30) days, and including the studency days (30) days (30) days and with account of the communication. Failure to reply within the set of restrated period for reply will by studied, cause the application to become ABANDONED (30 U.S.C.§ 133). Any reply received by the Office after then three monimals after the mailing date of this communication, even if timely filed, may reduce any examined putent term adjustment. See 37 CFR 1.794(b). Status 1) Responsive to communication(s) filled on 11 October 2002. 2a) This action is FINAL. 2b) This action is non-final. 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213. Disposition of Claims 4) Claim(s) 1-29 and 46-51 is/are pending in the application. 4a) Of the above claim(s) is in a studency of the provided of the communication of the day of the above claim(s) is/are objected to. 5) Claim(s) 1-2.9 and 46-51 is/are rejected. 7) Claim(s) 1-3.29 and 46-51 is/are objected to by the Examiner. Application Papers 9) The specification is objected to by the Examiner. 10) The drawing(s) filed on 1-1 is/are: a) accepted or b) objected to by the Examiner. If approved, corrected drawings are required in reply to this Office action. 12) Ackno | The MAILING DATE of this communication app Period for Reply | pears on the cover she t with the | e correspondence address |
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Application/Control Number: 09/712,474

Art Unit: 2821

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-29 and 46-51 have been considered but are most in view of the new ground(s) of rejection.

Despite applicant's disagreement, the examiner decides to provide new rejection as below in view of applying AC voltage directly to LED.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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3. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Allen (U.S. Patent number 6,072,280).

Regarding claim 1, Allen discloses a light emitting device comprising:

a plurality of organic light emitting diode (OLED) modules (104) (Fig. 1, col. 2, line 61, col. 3, line 5) electrically connected in series; and

an alternating current (AC) power source (110) (Fig. 1, col. 2, line 66) electrically connected to and providing an AC voltage directly to the plurality of OLED modules (Fig. 1), said voltage and said current inherently having a waveform characteristic.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United
- Claims 46 and 47 are rejected under 35 U.S.C. 102(b) as being anticipated by Okuda 5. (U.S. Patent number 5,828,181).

Regarding claim 46, Okuda discloses a display comprising a plurality of organic light emitting diode (OLED) modules arranged to spell out at least one letter or depict an image (Fig 9, col. 2, lines 1-45).

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Regarding claim 47, Okuda discloses a display comprising a plurality of organic light emitting diode (OLED) modules arranged to spell out at least one letter or depict an image (col. 2, lines 1-45).

Claim Rejections - 35 USC § 103

- 6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 7. Claims 2-3, 29 and 48-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen (U.S. Patent number 6,072,280) in view of Okuda (U.S. Patent number 5,828,181).

Regarding claim 2, Allen discloses a light emitting device comprising a plurality of organic light emitting diode (OLED) modules (104) (Fig. 1, col. 2, line 61) electrically connected in series, wherein the OLED modules emit light upon application of an AC voltage. Allen does not show a substrate. However, as evidenced by Okuda, providing a substrate (105) (col. 1, line 32) is well known in the art. Therefore, it would have been obvious to an ordinary skill in the art at the time of the invention was made to provide the device of Allen with the substrate as taught by Okuda in order to create the lighting system for processing the display device.

Regarding claim 3, Allen discloses the light emitting device comprising: at least one first conducting line provided on the substrate which electrically connected to a first end of each

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OLED series group; and a second conducting line provided on the substrate which electrically connected to a second end of each OLED series group opposite the first end (Fig. 5).

Regarding claim 48, the combination of Allen and Okuda discloses a display comprising a plurality of organic light emitting diode (OLED) modules arranged to spell out at least one letter or depict an image (col. 2, lines 1-45 of Okuda), wherein the plurality of OLED modules is grouped into a plurality of series groups, and the OLED modules of each series group are electrically connected in series (Fig. 1, col. 2, lines 60-62 of Allen).

Regarding claim 49, Okuda discloses the display wherein each OLED module has the shape of a letter or image (col. 2, lines 1-45).

Regarding claim 50, Okuda discloses a display comprising a plurality of organic light emitting diode (OLED) modules arranged to spell out at least one letter or depict an image (col. 2, lines 1-45 of Okuda), wherein the plurality of OLED modules are electrically connected in parallel (Figs. 4-9).

Regarding claims 29 and 51, the method steps are necessitated by the device structure as it is disclosed by Allen in view of Okuda.

Allowable Subject Matter

8. Claims 4-28 are allowed.

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None of the prior art teaches the converting circuit that converts an applied AC voltage with the sinusoidal waveform to the converted voltage waveform and applies the converted voltage waveform to the at least one first and the second conducting lines.

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Conclusion

- 9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yoshikawa et al. disclosed related art.
- 10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy Vu whose telephone number is (703) 306-5451. The examiner can normally be reached on Monday to Friday from 9:00am to 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong, can be reached on (703) 308-4856. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722 or (703) 308-7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center receptionist whose telephone number is (703) 308-

0956.

Jimmy Vu

January 10, 2003

Don Wong

Supervisory Patent Examiner

Technology Center 2800